

Petropoulos, Georgios

Research Report

An economic review of the collaborative economy

Bruegel Policy Contribution, No. 2017/5

Provided in Cooperation with:

Bruegel, Brussels

Suggested Citation: Petropoulos, Georgios (2017) : An economic review of the collaborative economy, Bruegel Policy Contribution, No. 2017/5, Bruegel, Brussels

This Version is available at:

<https://hdl.handle.net/10419/173101>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

An economic review of the collaborative economy

Georgios Petropoulos

Executive summary

GEORGIOS PETROPOULOS (Georgios.Petropoulos@bruegel.org) is a Research Fellow at Bruegel

POLICY CONTRIBUTION prepared for the European Parliament's Internal Market and Consumer Protection Committee as an input for a workshop on the collaborative economy (<http://www.europarl.europa.eu/committees/en/imco/events-workshops.html?id=20161019WKS00001>). Copyright remains with the European Parliament at all times. The link to the supporting analysis website of the European Parliament is <http://www.europarl.europa.eu/committees/en/imco/supporting-analyses.html>.

THE COLLABORATIVE ECONOMY matches people online who want to share assets and services. This Policy Contribution: i) discusses how the collaborative economy can be defined; ii) provides an overview of evidence about its potential benefits for European economies and the impact of specific platforms in the sectors of their operation; iii) illustrates the criteria that enable professional and non-professional services offered through collaborative platforms to be distinguished; iv) recommends priorities for the platforms so that they can create a safe and transparent environment for the transactions of their users; v) discusses further regulatory concerns and how they should be approached.

THE COLLABORATIVE ECONOMY is characterised by a great variety of business models. It spans multiple sectors each of which has its own market characteristics. A single definition is therefore beyond reach. However, a common element in the majority of business models is the use of under-utilised assets for the extraction of economic benefits.

THERE IS EVIDENCE that Europe could enjoy major economic gains from the collaborative economy, especially if barriers are removed and the regulatory framework is adjusted to better accommodate platforms. However, in particular sectors such as ride-sharing and short-term accommodation, the benefits from the operation of platforms come at a cost because platforms can have a detrimental effect on 'traditional' incumbent operators. The technology is thus disruptive to many traditional businesses.

WHILE, UNDER EU legislation, it is not clear when services supplied through collaborative platforms can be classified as professional, a careful examination of business models on a case-by-case basis can help to define some relevant criteria. The frequency with which a service is provided, the provider's motive and the associated remuneration are three important aspects that enable professional and non-professional services to be distinguished.

AS INTERMEDIARIES, COLLABORATIVE platforms have access to a large volume of information about the market and about their users, which is not available to other market participants or the regulator. Consumer protection requires a safe and transparent environment for transactions. Platforms based on their market position could be very helpful with this respect.

LEGAL CERTAINTY AND regulatory clarity are also required to incentivise further investment in efficient information technologies and platforms. The current uncertainty over the status of the collaborative economy platforms, legal disputes in national and European courts and decisions to restrict the operation of platforms at local/city levels create an environment in which it is difficult to attract new investment in Europe. Regulatory authorities should move quickly to define the framework of the operation of such platforms to restore investors' confidence. Local regulation is very important for defining the operational framework of collaborative platforms that can bring the greatest benefits to local economies. But an EU-wide approach is also needed to define the general framework of the operation of these platforms and to address in a decisive and clear way the associated regulatory concerns.

1 Introduction

The collaborative economy uses the internet to match people who want to share assets and services. Rather than buying a power drill that I only need for 15 minutes, for example, I can rent an idle one from someone else. A collaborative economy platform can help to identify who is willing to offer their power drill and to initiate the transaction. If the consumer has a preference for a drill with particular technical characteristics, it will be beneficial for her to be directed to the provider who offers that particular drill. Platforms can provide such recommendations and therefore facilitate efficient transactions through their matching algorithms. Users can maximise the value generated from their under-utilised assets, contributing to the better allocation of resources.

However, the collaborative economy also presents regulatory challenges. For example, competition between collaborative platforms and ‘traditional’ firms, which are subject to more restrictive rules, raises questions about how the level playing field can be restored. Because of their position in the market, platforms can also provide helpful services in terms of ensuring a safe and transparent environment that sufficiently protects their users.

This Policy Contribution provides an overview of definitions of collaborative economy (section 2), identifies the key elements in the business models of platforms which allow us to distinguish between when the provision of a service is professional and when it is not (section 3) and offers nine tentative recommendations to improve users’ experience of participation in collaborative economy platforms (section 4).

2 Definitions, business models and the impact of the collaborative economy

KEY FINDINGS

- Given the great variety and diversity of collaborative business models, it is difficult to provide a single definition;
- Many collaborative economy business models rely on the exploitation of under-utilised assets;
- Categorisation of collaborative platforms refers to whether they are for-profit or not, and whether they facilitate business-to-consumer or peer-to-peer transactions;
- Collaborative platforms could generate multi-billion euro gains for the European economy;
- Available empirical evidence shows that the market entry of platforms like Airbnb and Uber has had detrimental effects on the hotel and taxi industries, respectively. However, positive spillover effects may also be significant;
- Based on current findings, the entry of collaborative platforms is very likely to generate net benefits for consumers.

2.1 How to define the collaborative economy?

Terms such as ‘collaborative economy’, ‘sharing economy’, ‘gig economy’, ‘on-demand economy’ and ‘peer economy’ are often used interchangeably. The variety of names mirrors the confusion that surrounds this concept. Frenken *et al* (2015) defined the collaborative economy as the economy in which consumers grant other consumers temporary access to under-utilised assets (possibly for money). Maselli *et al* (2016) expanded this definition in two ways. First, they discarded the temporary access aspect by considering all goods that are

shared among consumers in a second-hand economy. Second, they take into account the provision of services from one consumer to another via contests or auctions, instead of only counting the trade in under-utilised assets.

Botsman (2015) defines the collaborative economy as “*an economic system of decentralised networks and marketplaces that unlocks the value of underused assets by matching needs and haves, in ways that bypass traditional middlemen*”. This economic system has three broad characteristics (Botsman and Roger, 2010):

- Access to products or services without the need to own the underlying assets;
- Re-allocation of goods;
- Exchange of intangible assets.

Botsman (2015) also identifies five key criteria for a platform to be considered a collaborative economy platform:

1. The core business idea involves unlocking the value of unused or under-utilised assets whether for monetary or non-monetary benefits;
2. The company should have a clear values-driven mission and be built on meaningful principles including transparency and authenticity, which inform short and long-term strategic decisions;
3. The providers on the supply side should be valued, respected and empowered, and the companies behind the platforms should be committed to making the lives of these providers economically and socially better.
4. The customers on the demand side should benefit from being able to access goods and services in more efficient ways, with payment for access instead of ownership.
5. The business should be built on distributed marketplaces or decentralised networks that create a sense of community, collective accountability and mutual benefit.

Multiple other studies¹ provide alternative definitions. Codagnone *et al* (2016), in their careful and comprehensive review of the literature, critically assess the main differences between these definitions. These include: a) the ability to facilitate exchange between strangers rather than within a community; b) strong reliance on technology that might also favour offline activities; and c) participation of consumers with high cultural capital rather than being limited to being a survival mechanism for the most disadvantaged.

Notwithstanding the multiple definitions, we can say that a key characteristic of the collaborative economy is that it provides an economic opportunity for individuals to trade their under-utilised assets with other individuals through intermediaries that match supply and demand in an efficient way, and with the help of information technologies. In many cases, this opportunity is only provided through collaborative platforms, as the supply of goods and services through other channels is subject to licencing and other regulatory barriers.

2.2 Business models and sectors

The main participants in the collaborative economy are:

- Service providers who share assets, resources, time and/or skills. They can be either private individuals offering services on an occasional basis (‘peers’) or professional services providers;
- Users who consume the provided assets;
- Intermediaries that connect providers with consumers via collaborative platforms, and that might also facilitate payments from consumer to provider, and other transactions.

¹ Dubois *et al* (2014); Schor (2014), (2015); Schor and Fitzmaurice (2015); Schor *et al* (2014).

Transactions generally do not lead to a change of ownership. By using information technologies, intermediaries can capture the underlying preferences and characteristics of potential providers and users and match supply and demand of assets in an efficient way. Intermediaries typically charge fees in the form of a percentage of the value of the transaction.

Use of technology to provide valuable information about the quality of products and services can be very beneficial for the economy. Akerlof (1970) showed how the quality of goods traded in a market can degrade if buyers and sellers do not have equal access to information. If a buyer is unable to distinguish between a high-quality and a low-quality car, he or she will only be prepared to pay a fixed price for a car that averages the value of both. But sellers know the exact quality of the car they hold (private information). Given the fixed price at which buyers will buy, sellers will sell only when they hold a low-quality car, and will leave the market when they hold a high-quality car. Eventually, the average willingness-to-pay of buyers will decrease because the average quality of cars on the market will decrease, leading even more sellers of high-quality cars to leave the market. It is possible that this will lead to a market failure in which no trade takes place because there are only low-quality cars available. Intermediaries that signal the quality of goods and services and remove barriers to the sharing of information can therefore reduce the risk of market failure and enable more efficient transactions.

The four sectors in which collaborative economy platforms have the most significant presence are:

- 1. Accommodation:** through platforms, people rent out properties or parts of properties. Examples of such companies are: Airbnb, HomeAway, HouseTrip, 9Flats, Wimdu, Onefinestay, Roomerama, Sleepout, Love Home Swap and Holiday Lettings. Airbnb provides a residential space-rental platform matching hosts and guests. As of February 2016, it claimed a presence in 34,000 cities covering more than 190 countries, 2 million listings, and more than 60 million guests hosted. Airbnb is valued at \$10 billion². HomeAway, with a similar business model covers 190 countries. It is a public company valued at \$3.4 billion. 9Flats has a strong European presence with 100,000 listings.
- 2. Transportation:** two different broad categories of platform can be distinguished in this sector. The first group of platforms facilitate the hiring of assets such as cars, motorbikes and bicycles. Examples are ZipCar, EasyCar, car2go, Autolib and Velib. The second group of platforms help their users to rent assets together with labour and human capital. Examples include BlaBlaCar, Sidecar, Uber and Lyft. Car2go offers transportation on demand using 'by-the-minute' rates. It is present in 29 European and North American cities. It reports having 1,000,000 members. BlaBlaCar enables drivers with empty seats and paying passengers to share long-distance travel costs; as of February 2016 the platform reports 25 million members and 10 million travellers per quarter. It is a private company valued at \$1.6 billion. Uber matches individuals that needing a lift with drivers; it has 160,000 registered drivers and covers 230 cities in 58 countries. Its estimated revenues in 2014 were between \$1.5-2 billion (Codagnone *et al*, 2016). It is currently valued at \$41.2 billion (Austin *et al*, 2015). Uber's competitor, Lyft, has 60,000 registered drivers and is valued at \$2.5 billion.
- 3. Online labour markets** such as Amazon Mechanical Tusk, Adtriboo, TaskRabbit, Oltretata, Freelancer, Crowdsourc, Crowdfunder and Clickworker. These platforms specialise in micro-tasking by matching employers and on demand workers.
- 4. Finance:** Crowdfunding platforms such as Kickstarter and IndieGogo match entrepreneurial projects with funders (venture capital financing). Peer-to-peer lending platforms such as Lending Club and Prosper connect individuals and SMEs with potential peer-lenders, without the involvement of any financial institution.

² See VB Profiles & Crowd Companies (2015) for the market valuations of the collaborative platforms reported here.

Intermediaries can capture the underlying preferences and characteristics of potential providers and users and match supply and demand of assets in an efficient way

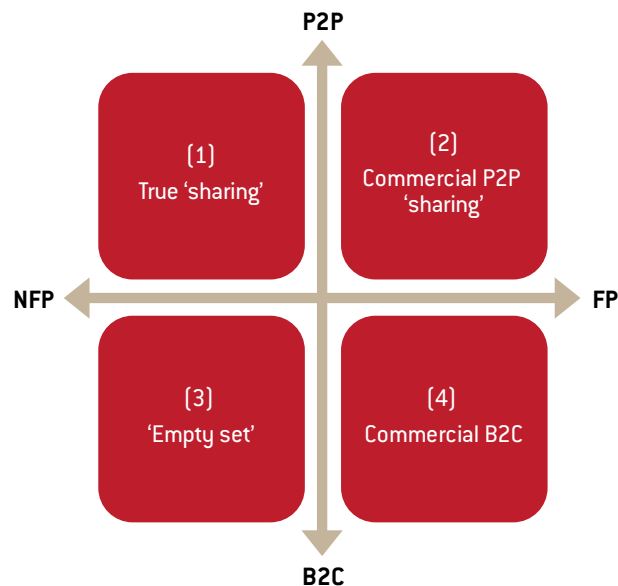
Moreover, online marketplaces such as eBay, Amazon and Etsy act as intermediaries in consumer-to-consumer and business-to-consumer relationships in which the main purpose is the sale of goods.

Because of the variety that is characteristic of the collaborative economy, a single definition and taxonomy is beyond reach. However, Codagnone and Martens (2016) provide a good conceptual framework to map the collaborative economy (Figure 1).

This classifies sharing platforms into for-profit (FP) and not-for-profit activities (NFP), which is a proxy for ‘true sharing’, and into business-to-consumer (B2C) and peer-to-peer (P2P) categories. Many P2P platforms are owned and operated by companies, but the primary service producers are individuals who are not formally organised as companies.

Figure 1 shows a four-way split of the collaborative economy. The north-west quadrant of Figure 1 corresponds to platforms with true sharing motives. The south-east quadrant connects the collaborative economy to ordinary B2C online activities. The north-east quadrant corresponds to collaborative economy platforms that facilitate transactions between peers. Platforms such as Uber, Airbnb, TaskRabbit and Upwork belong to this category. They have large user bases, raise short-term regulatory concerns and the largest players disrupt ‘traditional’ incumbent industries. The south-west quadrant is empty as businesses have by definition a profit motive.

Figure 1: Classification matrix of collaborative economy platforms



Source: Codagnone and Martens (2016).

2.3 Generated value and empirical findings

Geron (2013) estimated that the revenue flowing through the collaborative economy directly into people’s wallets at \$3.5 billion, and the value of the collaborative economy in the EU at €20 billion. Vaughan and Hawksworth (2014) calculated that on a global basis the collaborative economy was worth \$15 billion and could reach \$335 billion by 2025. Barbezieux and Herody (2016) estimated that in France, collaborative economy activities turn over \$2.5 billion, involve about 15,000 firms (including self-employed micro-entrepreneurs), and generate 13,000 permanent jobs. This would amount to approximately 0.1 percent of French GDP generated by 0.5 percent of French companies for 0.05 percent of French total employ-

ment. Goudin (2016) approximated the potential economic gain from better use of capacities as a result of the collaborative economy to be €572 billion in annual consumption across in the EU if substantial associated regulatory barriers are removed. Such barriers could reduce the value of potential increased use by up to €18 billion in the shorter term and by up to €134 billion in the medium and longer term, depending on the scale of the obstacles. Most of these estimates, however, should be treated with caution as, because of the lack of reliable data and consolidated empirical evidence, they are inevitably based on questionable assumptions (Codagnone *et al*, 2016).

Owyang *et al* (2014) in their survey of the UK, US and Canada, found that 29 percent of the British population had engaged at least once in a sharing transaction and 23 percent had used one or more platforms such as Airbnb, Uber, TaskRabbit, Etsy and Kickstarter. Stokes *et al* (2014) estimated that in 2014, 25 percent of the UK adult population shared online in some way. Huws and Joyce (2016b) using a nationally-representative sample of the UK population aged 16-75 and conducted at the end of 2015, reported that 72 percent of respondents were either making an income from online activities or buying labour from others. Of these, around 1 percent was involved in online rental schemes such as Airbnb. Huws and Joyce (2016a) found that about 68 percent of the Swedish adult population is active in some way in the online economy, for instance selling goods online or renting out rooms on platforms like Airbnb (those involved only in online rental are around 1 percent in Sweden as well). Van de Glind (2013) provided a large representative survey of Amsterdam's citizens and showed that 38 percent of respondents were willing to take part in all possible forms of collaborative consumption and 84.1 percent were willing to take part in at least one form. PIPAME (2015) reported the findings of a survey conducted in 2009, indicating that, at that time, 89 percent of the respondents had engaged at least once in collaborative consumption. Nielsen (2015) focused on ride services and renting in Denmark and found that by mid-2015, 3.1 percent of internet users let out via digital platforms and 8.7 percent had rented from Airbnb and similar platforms abroad, while 4.4 percent had done so in Denmark. Uber was used by 2.8 percent of internet users in Nielsen (2015).

As for empirical research³ on the microstructure of specific marketplaces, most studies focus on the models of Airbnb and Uber:

Fradkin (2014) reports that Airbnb's potential guests typically view only a subset of potential matches in the market and more than 40 percent of listings remain vacant for some dates; hosts reject guests' proposals to transact 49 percent of the time, causing the potential guests to leave the market although there are potentially good matches remaining; and without search frictions (if guests had all information and knew which hosts were willing to transact with them), there would be 102 percent more matches, and revenue per searcher would be \$117 higher. Zervas *et al* (2014) used data obtained from both Airbnb and the hotel industry in the Austin (Texas) area. They found that Airbnb's impact on the hotel market amounted to an 8 percent to 10 percent reduction in revenues, and that this impact was non-uniformly distributed, with lower-priced hotels, and hotels not catering to business travel being the most affected segments. Zervas *et al* (2014) also found that affected hotels responded by reducing prices, an impact that benefits all consumers.

Farronato and Fradkin (2015) found that the market expansion and business stealing effects of Airbnb differ by location, and attributed the differences to supply constraints – legal and geographic – relative to the level of demand. According to their model, hotels and peer-to-peer suppliers differ in their fixed and marginal costs, with hotels having higher fixed costs and peer-to-peer suppliers having higher marginal costs. The authors concluded that efficient market structure depends on the level and variability of demand, and quantified the welfare gains from peer-to-peer entry in the accommodation industry.

A statistical analysis of Airbnb data (combining pictures of all New York City landlords on Airbnb with their rental prices and information about the quality of the rentals) found what

3 Codagnone and Martens (2016) provide a nice review of the empirical research findings.

can be seen as indirect evidence of racial discrimination (Edelman and Luca, 2014). The main finding was that, controlling for other relevant covariates, non-black hosts charge approximately 12 percent more than black hosts for equivalent rentals. These effects are robust when controlling for all information visible in the Airbnb marketplace. These findings highlight the existence of discrimination in online marketplaces as a significant unintended consequence of a seemingly routine mechanism for building trust.

Bond (2015) analysed Uber's impact in San Francisco, the District of Columbia and New York, using extensive statistics on the taxi industry in the three areas pre- and post-Uber. The descriptive data suggests that Uber has had a negative impact on both the taxi industry's revenues and the values of taxi licenses. Wallsten (2015) uses Google Trends data as a proxy to measure the demand for Uber services and administrative records of taxi complaints filed by consumers in New York and Chicago. He shows that increased use of Uber correlates with fewer complaints. He finds that competition from Uber has led traditional taxi drivers to improve customer service. However, because of data limitations, it is difficult to estimate the exact magnitude of this spillover effect. Greenwood and Wattal (2015), taking advantage of the natural experiment created by the staggered entrance of Uber into different Californian cities between 2009 and 2013, concluded that Uber services contributed to a reduction in alcohol-related motor vehicle homicides.

Cullen and Farronato (2015) found that TaskRabbit's auction mechanisms (before a recent change of model) were inefficient because they did not vary much with market conditions, and suggested that a simpler mechanism may be preferable. This spot market clears thanks to a high elasticity of supply: in periods when demand doubles, sellers work almost twice as hard, prices hardly increase and the probability of requested tasks being matched falls only slightly. Horton (2014) found similar results for the oDesk market for professional services.

Fraiberger and Sundararajan (2015) calibrated data from the traditional US car market and from just one online peer-to-peer rental service (Getaround). They showed that peer-to-peer rental markets change the allocation of goods significantly and that below-median income consumers enjoy a disproportionate fraction of the resulting welfare gains through broader inclusion, higher quality rental-based consumption, and new ownership facilitated by rental supply revenues. Schor *et al* (2014), in their qualitative empirical study based on fieldwork at four sites, analysed how social class and other forms of inequality have an impact within this type of economic arrangement. They found considerable evidence of discriminatory practices and the deployment of cultural capital (ie some individuals did not share with others who made grammatical errors in text exchanged online). This exercise of class power undermines the ability to forge relationships of exchange, and reduces the volume of trades. It creates an inconsistency between actual practice and the widely articulated goals of openness and equality.

3 Provision of services through collaborative platforms

KEY FINDINGS

- The classification of services provided through collaborative platforms requires case-by-case analysis;
- There are three main criteria for classifying the services provided as professional: frequency of provision, a profit-seeking motive and remuneration;
- These three criteria can be used score platforms. By applying a threshold, we can differentiate between professional and non-professional services in peer-to-peer markets;

- Empirical evidence confirms the profit-seeking motive in sectors in which collaborative economy platforms are present;
- Further relevant empirical research with a focus on European markets should be encouraged.

3.1 Professional versus non-professional services

Collaborative economy platforms enable the provision of services by individuals and SMEs. EU consumer and marketing legislation provides the framework for transactions so that all involved parties are protected. For professional services, there are additional regulatory requirements on service providers, including market access, tax and safety regulations, which increase the operating costs of professional providers (and consequently the cost of the transaction)⁴. However, EU legislation does not establish at what point an individual becomes a professional service provider in the collaborative economy. EU countries apply different criteria to differentiate between professional services and peer-to-peer services. Some member states define professional services as services provided for remuneration compared to peer-to-peer services that seek to cover the costs incurred by the services provider. Other member states differentiate using thresholds. These thresholds are often developed on a sector-specific basis, taking into account the level of income generated or the regularity with which the service is provided. Below these thresholds, service providers are usually subject to less restrictive requirements.

The collaborative economy blurs the line between professional and non-professional services, especially in the business models that belong to the northwest quadrant of Figure 1. Given the great variety of business models, classification of services as professional must be done on a case-by-case basis. Nevertheless, by looking at the particular characteristics of the providers of services in collaborative economy models some general criteria⁵ to define professional services can be identified:

- Frequency of service: if the service is provided on a regular basis, it is more likely to fall into the professional category;
- Reason for service provision: if the main purpose of the provision of the service is to earn income, then the provider is more likely to be seen as a professional;
- Income level: the higher is the income from provision of the service, the more likely the service will be classified as professional.

For example, the BlaBlaCar platform is used for long-distance trips that on average (per provider) are not as frequent as the trips made by urban ride-sharing platform drivers (such as Uber and Lyft drivers). A service provider that uses the BlaBlaCar platform is more likely to want to recover the cost of a trip, rather than generate income. BlaBlaCar drivers would possibly take long-distance trips for personal reasons even if they do not share their car. For Uber and Lyft, this is not the case, because the passengers determine the exact route and time of the ride.

The three criteria should not be examined in isolation. It is necessary to define a method of calculating a score based on these three criteria and set a threshold above which the service can be classified as professional. Since each EU country uses different criteria and thresholds to define professional services, EU-wide coordination is needed to avoid major cross-border discrepancies. In this respect, the collaborative economy is an opportunity for

4 According to the Unfair Commercial Practices Directive (2005/29/EC): a trader is a person “acting for purposes relating to his trade, business, craft or profession”; and a consumer is a person acting “outside his trade, business, craft or profession”.

5 The European Commission, in its European agenda for the collaborative economy (see COM (2016) 356) correctly identifies these criteria as important for the definition of professional services.

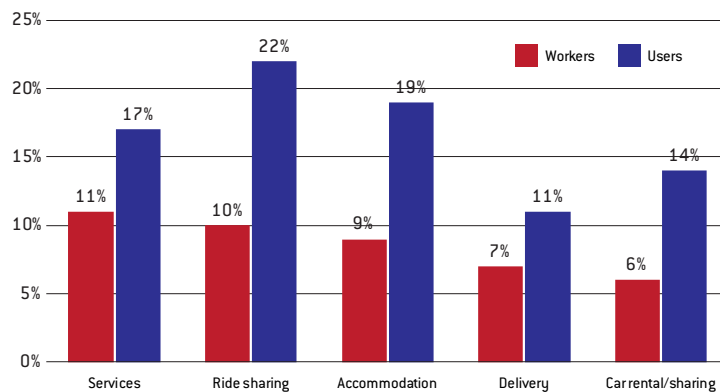
better collaboration between member states, which is vital for the fulfilment of the goals of the digital single market.

It is important to identify the services that should be classified as professional in order to apply the appropriate consumer protection framework in collaborative economy transactions. Profit-seeking motives seem to be well justified from the available empirical evidence. The proportion of full-time providers is significant. This suggests that some individuals consider their involvement with collaborative platforms to be the primary source of their income. However, further analysis and evidence is needed to reach a conclusion about the share of activities in the collaborative economy that can be classified as professional.

Jobs associated with the collaborative economy account for less than 50 percent of household income for 58.5 percent of respondents to the RFS 1099 Economy Workforce Report (2015), and less than 25 percent of household income for almost two-fifths of respondents. Moreover, according to a 2015 survey of 3000 Americans commissioned by Burston-Marsteller, the Aspen Institute and TIME, 44 percent of the population have used collaborative platforms. Corrected for internet usage and demographics, the data shows that almost all of the people involved in the collaborative economy have used the services (42 percent) of a collaborative platform and about half have worked (22 percent) through a collaborative platform.

Figure 2 shows the share of the US population that participates in the collaborative economy. The providers primarily offered services such as home repair and moving (11 percent), ride sharing (10 percent), accommodation (9 percent), and to a lesser extent food delivery (7 percent) and car rental/sharing (6 percent). The services provided are quite evenly spread across different types of services identified in the survey. Demand meanwhile is more biased towards ride sharing, accommodation (19 percent) and services (17 percent). Providers and users have, on average, offered/used services from two types of platform.

Figure 2: US population share that participates in collaborative economy

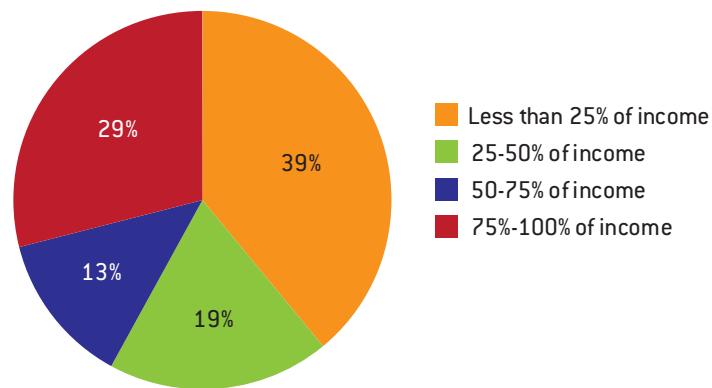


Source: Burston-Marsteller, the Aspen Institute and TIME (2015).

Figure 3 on the next page shows the share of household income in the US derived from the collaborative economy: 39 percent of households earn less than 25 percent of their income from the collaborative economy, while 29 percent of households rely heavily on income from collaborative economy platforms.

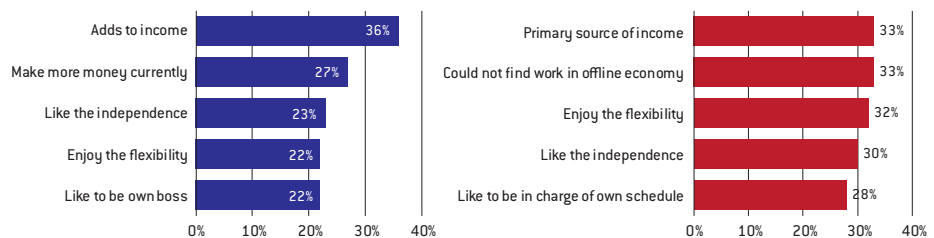
Figure 4 on the next page shows that 36 percent of casual workers (the ones who earn less than 40 percent of their monthly income) and 33 percent of workers who earn more than 40 percent of their monthly income in the collaborative economy, consider the collaborative economy to be the primary source of their income. Smaller percentages of service providers are attracted primarily because of the flexibility of work in collaborative economy business models.

Figure 3: Percentage of household income in the US from the collaborative economy



Source: RFS 1099 Report, Bloomberg.

Figure 4: Reasons for joining collaborative economy platforms, casual workers (left panel) and regular workers (right panel)



Source: Burston-Marsteller, the Aspen Institute and TIME (2015).

A further more comprehensive empirical analysis with a European focus could provide many useful insights, especially in relation to the frequency of provided services and remuneration.

4 Regulatory challenges and consumer protection

KEY FINDINGS

- Regulation should not only target collaborative platforms, but should also adjust the regulatory framework in the markets of their traditional competitors in order to encourage innovation and their further adoption of information technologies;
- Application of regulations at the local, national and EU level should be coordinated to maximise the benefits from the operation of such platforms;
- Regulatory certainty should underpin the growth of European platforms, so they can close the gap with North America and Asia;
- Collaborative platforms have extensive access to information related to their users and market conditions. They can thus substantially contribute to the protection of their users. Their collaboration with authorities is essential to guarantee high protection standards;

- We make nine recommendations on how to improve and protect users of collaborative platforms.

4.1 Regulatory concerns and approach

Despite the efficiencies and benefits associated with the collaborative economy, there are concerns about how it can be properly regulated. Goudin (2016), for example, concluded that the current regulatory framework is not appropriate, suggesting that a new framework is needed. In addition, the difference in regulatory regimes for online and offline services can lead in some cases to situations of unfair market competition. An important question is therefore: how can we restore a level playing field?

To answer this question we should look at how to regulate collaborative economy platforms and also to how to adjust the existing regulatory framework that applies to offline services to take account of the arrival of collaborative efficient competitors. The entry of digital firms into traditional markets can have positive spillover effects for the ‘traditional’ incumbents⁶. The entry of collaborative platforms should increase competition. Such competitive pressure can stimulate investment in innovation by offline firms in order to protect their market positions. Regulation in the main sectors of collaborative activity should also be aimed at promoting the greater adoption of information technologies by offline firms so that they can compete more efficiently with their collaborative competitors. In this way, additional benefits will accrue to consumers as a result of increased competition⁷. For example, strict price regulation in the taxi industry (which to some extent was introduced for transparency reasons and passenger protection) has been overtaken by the liberalisation of the market with the entry of Uber, Lyft and other collaborative ride-sharing firms. Digital information on the terms and conditions of ride services provides transparency over the transaction even if the price of the ride is not fixed. Since fixed prices will not be necessary for transparency, taxis will not feel constrained by the regulatory framework and will be able to reduce their prices and compete more effectively with collaborative platforms (as hotels did in response to the entry and operation of Airbnb; see Zervas *et al*, 2014).

In specific sectors in which collaborative platforms facilitate (professional) services that are close substitutes (from the perspective of consumers) for those offered by traditional firms, the additional regulatory costs faced by traditional firms might prevent them from competing with digital firms. In such cases, the establishment of a level playing field should not lead to increased regulatory costs for platforms, which would likely be passed through to consumers. The main objective should be the protection of consumers and not protection against competition.

Legal certainty and regulatory clarity are also required to incentivise further investment in efficient information technologies. The current uncertainty over the status of collaborative economy platforms, the legal disputes before national and European courts, and decisions to restrict the operations of platforms at local/city level, have created an environment in which it is difficult to attract new investment in Europe. Regulatory authorities should move quickly to define the framework of the operation of such platforms, in order to restore investors’ confidence. In any case, restricting the operation of particular business models will have a greater impact on newer and smaller European platforms, rather than on established American platforms that have reached a scale sufficient to absorb such regulatory shocks. For example, the decision of the Berlin city court to ban short-term rentals had a greater impact on 9Flats than Airbnb, because Berlin’s accommodation market is much more important for the operation of the former (given its smaller scale) than the latter.

If we compare the online platforms created in Europe to those founded in North America

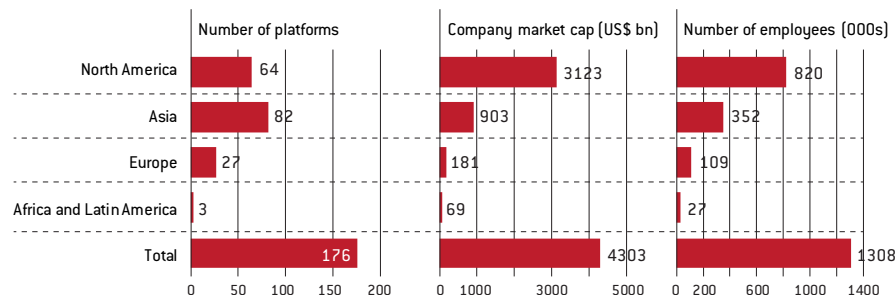
⁶ As Wallsten (2015) predicts. See relevant discussion in section 2.3.

⁷ I believe that the European Commission ought to have covered this point in the European agenda for the collaborative economy (COM (2016) 356).

The uncertainty over the status of collaborative economy platforms, legal disputes and local decisions to restrict the operations of platforms, have created an environment in which it is difficult to attract new investment in Europe

and Asia, we see that Europe is far behind both in terms of number of platforms and their market capitalisation (Figure 5).

Figure 5: Online platforms by region



Source: Evans and Gawer (2016).

Another key question is whether or not regulatory intervention should take place at EU level or at local level. Collaborative platforms mainly have an impact on local economies. It therefore makes sense to emphasise local-level regulation that responds to the characteristics of different localities. However, because collaborative platforms have the tendency to expand to multiple countries, a European approach is also necessary to make sure that any local rules are in line with the basic principles of the digital single market and agenda. The balance between EU-wide and local regulation should be stable, while meeting the needs of each region.

Other current regulatory discussions around the collaborative economy include:

1. **Employment:** Should providers of services through collaborative platforms be considered employees or independent contractors? The great variety of business models implies that a case-by-case approach should be adopted. If the platform controls the provision of the service and sets the terms and conditions, it would suggest an employment relationship. However, flexibility on the part of the provider is a common characteristic of the main business models: the provider can choose when and for how long to work. The relationship between the platform and the provider is usually non-exclusive allowing providers to offer services via other platforms or in other ways. According to the EU Court of Justice⁸, the essential features of an employment relationship are:
 - i. For a certain period, a person performs services for and under the direction of another person.
 - ii. In return, he/she receives remuneration.

This definition does not fully match with the flexibility providers have in relation to collaborative economy platforms. This suggests that in cases in which the platform controls the provision of the service, a new employment relationship is needed that provides sufficient protection for workers, but does not abolish the flexibility, which in combination with efficient information-matching technologies can generate additional benefits for service providers. Note, however that if providers are classified as employees, the platform will incur additional costs which are likely to be passed on to end users (providers and consumers).
2. **Taxation:** While there is substantive law on taxing corporate revenue, enforcement might be difficult because some platforms can choose the most favourable regulatory regime for them. Tax issues should be addressed both at local level through cooperation between

⁸ See also European Commission (2010).

authorities, and at international level by removing opportunities for tax evasion.

3. **Data and privacy regulation:** Platforms rely extensively on user data and algorithms to match buyers and sellers, set prices and monitor behaviour. The extensive data collection and the use of personalised algorithms raise challenging regulatory issues and questions. For instance, what rights should consumers have to limit the way these businesses use their data? Should it be possible to share or sell individual feedback ratings or purchase histories? If a worker performs poorly, or a consumer gets bad feedback when using a particular service, should they be able to expect a fresh start with another one? According to Tucker (2015) a worker whose poor feedback follows her to her next job might suffer economic harm, but even if she does not, she may suffer an inherent – and difficult to quantify – cost from the loss of privacy.
4. **Optimal timing for regulatory action**⁹: Digital platforms can grow and evolve extremely quickly if they succeed. One difficulty in trying to regulate rapidly growing and evolving businesses is that regulations cannot easily be changed or withdrawn. Rules that looked sensible at the time they were imposed might later appear outdated or misguided. However, it should be taken into account that regulatory measures can have a major impact on the potential development of platforms. More important than the timing of regulatory intervention is the clarity of the rules that allow platforms to design their growth path with certainty.

4.2 Protection of users: nine tentative recommendations

The following nine priorities (in random order) for protection of consumers may be applicable to different degrees to different platforms, depending on their business models, the types of services they provide and the market characteristics:

- **SAFETY OF SERVICE:** Platforms and authorities should ensure that providers of (especially professional) services have been through the appropriate training and inspection processes and have the required qualifications to provide the service to consumers in a safe way. Professional service providers should be required to comply with the same standards as the ‘traditional’ firms that operate in the same market.
- **TRANSPARENCY OF COLLECTION AND PROCESSING OF PERSONAL DATA:** Platforms collect personal data from their users to help improve the efficiency of their algorithms. In some cases, collected data contains sensitive information, such as locations of users at various times or credit card details. Platforms should inform their users through clear and easy to read notifications about the data they collect and the way they process it. Users should always give their explicit consent.
- **CLEAR LIABILITY RULES:** Liability rules should be clear in advance of any transaction, and all parties should be properly notified and insured. Platforms can be exposed to liabilities when they define the terms and conditions while also controlling the provided service.
- **RELIABILITY OF REPUTATION MECHANISMS:** The ability to check and evaluate service provider profiles, and to read reviews about the quality of the service, is important and can help maximise the benefits of an efficient transaction by removing information asymmetries. It is important that these mechanisms should be designed in an unbiased way so that they show the true preferences and judgments of users. Potential concerns over how unbiased these mechanisms are include the fact that reviewers might be reluctant to provide negative ratings (because, for example, they are afraid of starting a bad ratings ‘war’ and hurting their reputation). In markets in which the values of individual transactions are higher, or where personal safety is a concern, reputation mechanisms have become increasingly sophisticated. Prosper, for example, collects and posts credit bureau

⁹ See Einav et al (2015).

information about potential borrowers. Airbnb verifies the true identities of buyers and sellers. Two-sided reviews also play an important role. For instance, Uber uses customer reviews to screen out problematic drivers, and shows drivers the ratings of potential customers, so that customers who behave badly might have a harder time finding a ride in the future. Of course, heavy reliance on feedback scores raises the concern that users will seek to manipulate these scores. Mayzlin *et al* (2015) argue that on review platforms such as TripAdvisor or Yelp, where anyone can post a review, manipulation is pervasive. Platforms should design carefully their review and evaluation mechanisms so that reports are truthful and manipulation limited.

- **PREVENTION OF FRAUD:** As payments are made online, there is always the risk of fraud. Ranchordas (2015), for example, reported numerous protests about scams on websites in the context of collaborative economy transactions. Platforms should design their payment process to minimise the risk of fraud. Moreover, it is important for consumers to be able to easily file complaints and obtain quick and fair complaint resolution.
- **ASSURANCE OF NON-DISCRIMINATORY PROVISION OF SERVICES:** Platforms should encourage general, clear and transparent rules against any form of discrimination (including racial minorities, low-income users and low-income regions), which should be respected by all participants. The lack of relevant regulation of the collaborative economy (Edelman and Geradin, 2015) should not leave an open window for such practices. Discriminatory practices have been empirically observed and should be properly addressed (see section 2.3).
- **CLOSER COLLABORATION WITH LOCAL AUTHORITIES:** The close collaboration of platforms with local authorities is essential for the fair allocation of the generated benefits within local communities, and for the creation of smart cities based on collaborative consumption. Discussions and bilateral agreements on a series of issues, such as city taxation, local employment, investment in infrastructure and efficient ways to share assets, can improve living standards and increase the value of participation in the collaborative economy.
- **ENCOURAGEMENT OF DIGITAL USERS' ASSOCIATIONS:** Platforms and information technologies can facilitate interactions between users and can help them to form associations that represent their interests. This is particularly important in large and successful business models with many users, in which platforms retain the right to control (at least partly) the terms and conditions of the provision of the service. Such interaction among users can improve their collective bargaining position and help platforms make operational decisions that benefit to a greater extent their users. This should be encouraged.
- **ENCOURAGEMENT OF EVIDENCE-BASED ECONOMIC ANALYSIS:** While there are now multiple collaborative business models that have arisen in many sectors, there is only a limited number of empirical studies dealing with the impact of collaborative economy platforms. A major reason for this is the lack of available data on the operation of these platforms. In addition, some of the studies that have been done with direct access to platforms' data have been commissioned by the platforms. Research by academic and policy institutions should be encouraged. As access to data is needed, platforms could agree to give researchers access to parts of their datasets (to the extent that they do not compromise their business activities). Assessing the exact impact of platforms is of vital importance for the design of the correct policies.

5 Conclusions

The arrival of the collaborative economy could bring many benefits for consumers and the economy as a whole. Through their matching algorithms, online platforms improve the efficiency of transactions, leading to increased trade among peers in underutilised assets.

Regulation to address concerns generated by the operation of collaborative platforms should be adopted on a case-by-case basis. However, general criteria for classifying services into professional and non-professional categories can be adopted. It would be helpful if there was EU-wide agreement on the classification.

The literature on the topic shows that we are far from finding the answers to some of the fundamental questions about the collaborative economy. The available research is too limited to give us a comprehensive and coherent picture. As collaborative platforms are expected to make further inroads into markets, it is essential to encourage further research that focuses on the impact of these platforms on the economy, the associated regulatory concerns and the best way to address them, and how incentives can be provided for more investment in information technologies to increase further the positive impact of collaborative platforms on the economy.

References

- Akerlof, G. (1970) 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism', *Quarterly Journal of Economics*, 84(3): 488-500
- Austin, S., C. Canipe, and S. Slobin (2015) 'The Billion-Dollar Startup Club', *Wall Street Journal*, available at <http://graphics.wsj.com/billion-dollar-club/>
- Barbezieux, P. and C. Herody (2016) *Rapport Au Premier Ministre Sur L'économie Collaborative*, Paris: République Française, available at <http://www.gouvernement.fr/sites/default/files/liseuse/6421/master/projet/Rapport-de-Pascal-Terrasse-sur-le-d%C3%A9veloppement-de-l-%C3%A9conomie-collaborative.pdf>
- Bond, A. (2015) 'An App for That: Local Governments and the Rise of the Sharing Economy', *Notre Dame Law Review*, 90 (2): 77-96
- Botsman, R. (2015) 'Defining the Sharing Economy: What is Collaborative consumption-and What isn't?' *fastcoexist.com*, available at <http://www.fastcoexist.com/3046119/defining-the-sharing-economy-what-is-collaborative-consumption-and-what-isnt>
- Botsman, R. (2010) 'The Case of Collaborative Consumption', *TED talk*, December, available at https://www.ted.com/talks/rachel_botsman_the_case_for_collaborative_consumption/transcript?language=en
- Botsman, R. and R. Rogers (2010) *What's mine is yours: The rise of collaborative consumption*, New York: Harper Collins
- Burston-Marsteller, Aspen Institute and TIME (2015) *The Collaborative Economy Survey*, available at www.burson-marsteller.com/ondemand-survey/
- Codagnone, C., F. Abadie and F. Biagi (2016) 'The Passions and the Interests: Unpacking the Sharing Economy', *Digital Economy Working Paper* 2016/01, Institute for Prospective Technological Studies
- Codagnone, C. and B. Martens (2016) 'Scoping the Sharing Economy: Origins, Definitions, impact and Regulatory Issues', *JRC Science for Policy Report*, Luxembourg: Publications Office of the European Union
- Cullen, Z. and C. Farronato (2015) *Outsourcing Tasks Online: Matching Supply and Demand on Peer-to-Peer Internet Platforms*, Department of Economics, Stanford University
- Dubois, E., J. Schor and L. Carfagna (2014) 'New Cultures of Connection in a Boston Time Bank', in J. Schor and C. Thompson (eds) *Practicing Plenitude*, New Haven: Yale University Press
- Edelman, B. and M. Luca (2014) 'Digital Discrimination: The Case of Airbnb.com', *Harvard Business School Working Papers* No. 14-054
- Einaiv, L., C. Farronato and J. Levin (2015) 'Peer-to-Peer Markets', *National Bureau of Economic Research Working Paper Series*, No. 21496

- European Commission (2005) Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council ('Unfair Commercial Practices Directive')
- European Commission (2016) 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, A European agenda for the collaborative economy', SWD (2016) 184 final
- European Commission (2010) 'Reaffirming the free movement of workers: rights and major developments. Point I.1.1', COM (2010) 373, available at <http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1453133735571&uri=CELEX%3A52010DC0373>
- Evans, P. C. and A. Gawer (2016) 'The Rise of the Platform enterprise - A Global Survey', *The Emerging Platform Economy Series* No. 1, Center for Global Enterprise, available at http://thecge.net/wp-content/uploads/2016/01/PDF-WEB-Platform-Survey_01_12.pdf
- Fradkin, A. (2015) *Search Frictions and the Design of Online Marketplaces*, mimeo, available at <http://andreyfradkin.com/assets/SearchFrictions.pdf>
- Fradkin, A., E. Grewal, D. Holtz and M. Pearson (2015) 'Bias and Reciprocity in Online Reviews: Evidence From Field Experiments on Airbnb', EC'15 Proceedings of the Sixteenth ACM Conference on Economics and Computation
- Fraiberger, S. and A. Sundararajan (2015) 'Peer-to-Peer Rental Markets in the Sharing Economy' *NYU Stern School of Business Research Paper*, New York
- Geron, T. (2013) 'Airbnb And The Unstoppable Rise Of The Share Economy', *Forbes*, 23 January, available at <http://www.forbes.com/sites/tomiogeron/2013/01/23/airbnb-and-the-unstoppable-rise-of-the-share-economy/#ab0e28b6790b>
- Goudin (2016) *The Cost of Non-Europe in the Sharing Economy*, European Parliamentary Research Service, European Parliament
- Greenwood, B. and S. Wattal (2015) 'Show Me The Way To Go Home: An Empirical Investigation of Ride Sharing and Alcohol Related Motor Vehicle Homicide', *Fox School of Business Research Paper* No. 15-054, available at <http://ssrn.com/abstract=2557612>
- Huws, U. and S. Joyce (2016a) 'Size of the Sweden's "Gig Economy" revealed for the first time University of Hertfordshire and UNI Europa', *Crowd Working Survey*, available at <http://www.feps-europe.eu/assets/3f853cec-1358-4fb4-9552-274b55e05ecf/crowd-working-survey-swedenpdf.pdf>
- Huws, U. and S. Joyce (2016b) 'Size of the UK's "Gig Economy" revealed for the first time University of Hertfordshire and UNI Europa', *Crowd Working Survey*, available at <http://www.feps-europe.eu/assets/a82bcd12-fb97-43a6-9346-24242695a183/crowd-working-surveypdf.pdf>
- Maselli, I., K. Lenaerts and M. Beblavý (2016) 'Five things we need to know about the collaborative economy', *CEPS Essay* No 21, Centre for European Policy Studies
- Mayzlin, D., Y. Dover and J. Chevalier (2014) 'Promotional Reviews: An Empirical Investigation of Online Review Manipulation', *American Economic Review*, 104 (8): 2421-2455
- Nielsen, P. (2015) "Sharing Economy" in Denmark - First Attempt to Measure, Statistics Denmark, available at <http://dynamicsofvirtualwork.com/wp-content/uploads/2016/03/Nielsen-presentation.pdf>
- Owyang, J., A. Samuel and A. Grenville (2014) *Sharing is the new buying: Vision Critical & Crowd Companies*, available at <https://www.visioncritical.com/resources/collaborative-economy-report/>
- PIPAME (2015) *Enjeux et perspectives de la consommation collaborative*, Rapport Final, Ministère Ministère de l'Économie, de l'Industrie, et du Numérique, Pôle Interministériel de Prospective et d'Anticipation des Mutations Économiques (PIPAME), Paris: République Française, available at http://www.entreprises.gouv.fr/files/files/directions_services/etudes-et-statistiques/prospective/Numerique/2015-07-Consommation-collaborative-Rapport-final.pdf
- Ranchordas, S. (2015) 'Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy', *Minnesota Journal of Law, Science & Technology*, 16 (1): 413-475
- RFS 1099 Report (2015) *The Sharing Economy*, Bloomberg
- Schor, J. (2014) 'Debating the Sharing Economy', *Great Transformation Initiative*, available at <http://greattransition.org/publication/debating-the-sharing-economy>
- Schor, J. (2015) 'Getting Sharing Right', *Contexts*, 14 (1): 14-15
- Schor, J. and C. Fitzmaurice (2015) 'Collaborating and Connecting: The emergence of the sharing economy', *Handbook of Research on Sustainable Consumption*, Cheltenham: Edward Elgar
- Schor, J., C. Fitzmaurice, L. Carfagna and C. Will-Attwood (2014) *Paradoxes of Openness and Distinction*

in the Sharing Economy, Boston: Boston College

- Sundararajan, A. (2014) 'Peer-to-peer businesses and the sharing (collaborative) economy: overview, economic effects and regulatory issues,' written testimony for the hearing *The power of connection: peer-to-peer businesses*, Committee on Small Businesses, US House of Representatives, 15 September
- Van de Glind, P. (2013) 'The consumer potential of Collaborative Consumption: Identifying (the) motives of Dutch collaborative consumers & Measuring the consumer potential of Collaborative Consumption within the municipality of Amsterdam,' Master thesis, Utrecht University, available at <http://dspace.library.uu.nl/handle/1874/280661>
- Vaughan, R. and J. Hawksorth (2014) 'The sharing economy: how will it disrupt your business? Megatrends: the collisions,' PWC, available at http://pwc.blogs.com/files/sharing-economy-final_0814.pdf
- VB Profiles and Crowd Companies (2015) 'The Collaborave Economy \$B Companies: The Cheat Sheet,' VB Profiles, available at <http://pages.vbprofiles.com/Collaborativeeconomy>
- Wallsten, S. (2015) *The Competitive Effects of the Sharing Economy: How is Uber Changing Taxis?* New York: Technology Policy Institute
- Zervas, G., D. Proserpio and J. Byers (2014) 'The rise of the sharing economy: Estimating the impact of Airbnb on the hotel industry,' *Research Paper*, Boston U. School of Management